



Update on Nitrogen Water Quality Conditions in the South Florida Water Management District

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Purpose and Introduction

November 2015 WRAC presentation focused on phosphorus water quality conditions

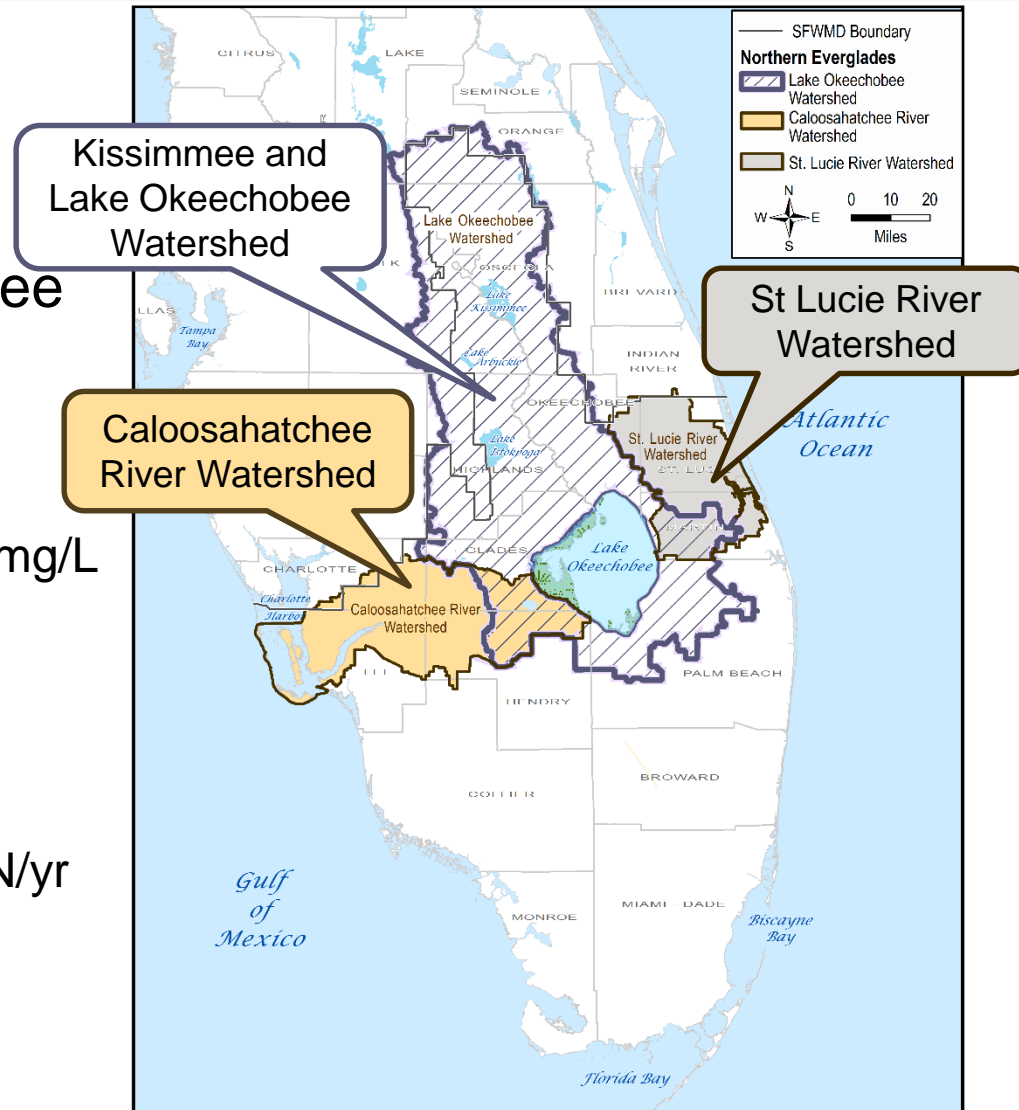
1. Comments on phosphorus slides resulted in refined presentation posted to WRAC Meetings website (11/5/15 Meeting Date)
2. Questions about nitrogen to and from Lake Okeechobee and in Estuary watersheds resulted in today's presentation, including:
 - Average annual TN levels WY2011-2015
 - Percent contribution of water and nitrogen from each sub-watershed relative to the watershed



Total Nitrogen Conditions

Northern Everglades Watersheds

- Kissimmee / Lake Okeechobee
 - No TMDL for nitrogen
- St Lucie Estuary
 - TMDL Estuary TN Target: 0.72 mg/L
 - BMAP June 2013
- Caloosahatchee Estuary
 - TMDL Estuary TN Target:
~4,121 mtons (~9 million lbs) TN/yr
 - BMAP November 2012



Northern Everglades Lake Okeechobee Inflow

WY2011-WY2015 Nitrogen

Northern watershed contributes:
 ~ 91% of flow and
 ~ 87% TN load

LAKE ISTOKPOGA

13% Water; 13% TN Load

TN Load	TN FWMC
530 mt	1.54 ppm

INDIAN PRAIRIE

13% Water; 18% TN Load

TN Load	TN FWMC
728 mt	2.16 ppm

FISHEATING CREEK

9% Water; 10% TN Load

TN Load	TN FWMC
401 mt	1.71 ppm

WEST LAKE O.

2% Water; 2% TN Load

TN Load	TN FWMC
89 mt	1.61 ppm

UPPER KISSIMMEE

34% Water; 25% TN Load

TN Load	TN FWMC
1,048 mt	1.16 ppm

LOWER KISSIMMEE

16% Water; 13% TN Load

TN Load	TN FWMC
554 mt	1.29 ppm

TC-NS

6% Water; 8% TN Load

TN Load	TN FWMC
329 mt	1.94 ppm

EAST LAKE O.

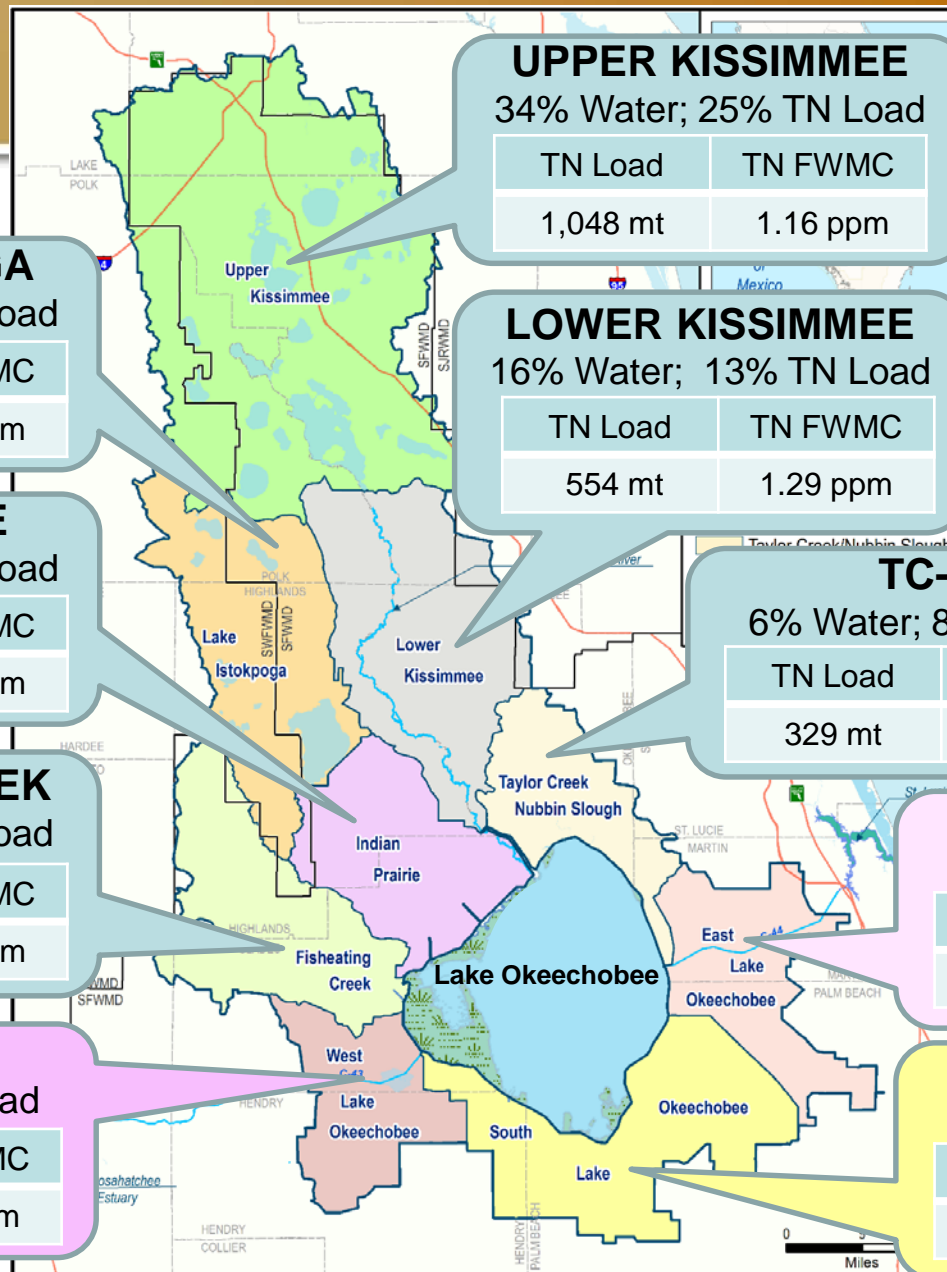
4% Water; 5% TN Load

TN Load	TN FWMC
198 mt	1.90 ppm

SOUTH LAKE O.

3% Water; 6% TN Load

TN Load	TN FWMC
265 mt	3.80 ppm





Northern Everglades

St Lucie Estuary Inflow WY2011-WY2015

Nitrogen

Local Basin Runoff accounted for about 79% of flow and 79% of TN load to Estuary.

TEN MILE CREEK

10% Water; 8% TN Load

TN Load	TN FWMC
96 mt	0.99 ppm

C-24

13% Water; 17% TN Load

TN Load	TN FWMC
195 mt	1.62 ppm

C-23

12% Water; 16% TN Load

TN Load	TN FWMC
186 mt	1.66 ppm

LAKE OKEECHOBEE

21% Water; 21% TN Load

TN Load	TN FWMC
249 mt	1.29 ppm

TIDAL BASINS (ESTIMATED)

31% Water; 22% TN Load

TN Load	TN FWMC
257 mt	0.90 ppm

Atlantic Ocean

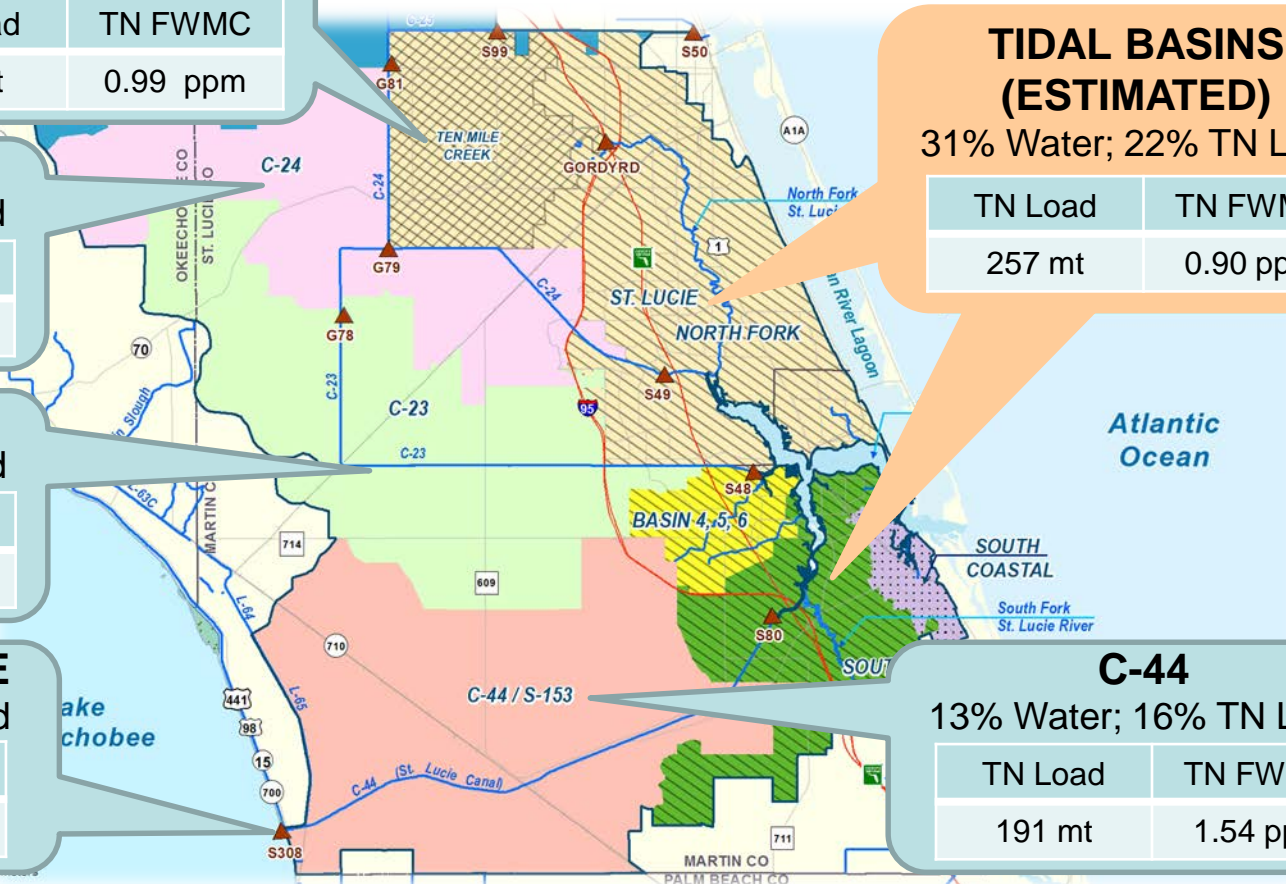
SOUTH COASTAL

South Fork St. Lucie River

C-44

13% Water; 16% TN Load

TN Load	TN FWMC
191 mt	1.54 ppm





Northern Everglades

Caloosahatchee Estuary Inflows WY2011-15

Nitrogen

Local Basin Runoff accounted for about 69% of flow and 68% of TN load to Estuary

TIDAL BASIN (ESTIMATED)

21% Water; 20% TN Load

TN Load	TN FWMC
568 mt	1.29 ppm

LAKE OKEECHOBEE

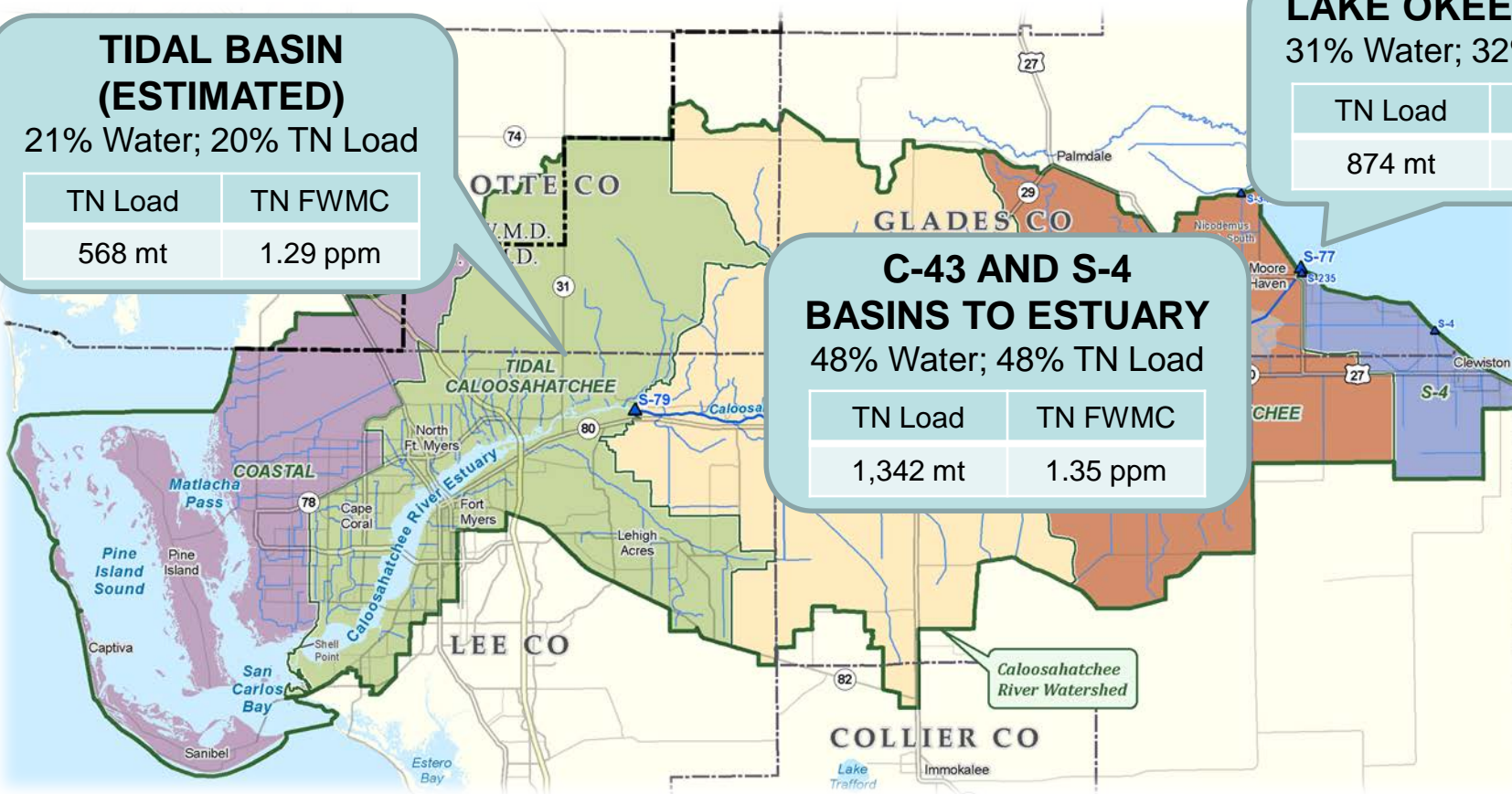
31% Water; 32% TN Load

TN Load	TN FWMC
874 mt	1.36 ppm

C-43 AND S-4 BASINS TO ESTUARY

48% Water; 48% TN Load

TN Load	TN FWMC
1,342 mt	1.35 ppm



Note: Coastal Basin runoff (west of Shell Point) is not included as Estuary contribution.



Discussion